

Claims

1. A sensor arrangement (1, 3, 5) remotely readable by radio frequencies for determining desired quantities from the sources, wherein the arrangement comprises

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- an LC resonator (3, 5), which comprises a capacitor (3) and a coil (5), and
- a sensor element (1) coupled to the LC resonator (3, 5), whose properties change as a function of a measurable quantity,

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characterized in that

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- the sensor element (1) does not form a direct galvanic contact with the LC resonator (3, 5), rather the coupling is implemented capacitively or inductively.

2. An arrangement (1, 3, 5) according to claim 1, **characterized in that** the sensor element (1) is cumulatively variable.

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3. An arrangement (1, 3, 5) according to claim 1 or 2, **characterized in that** it is suitable for use in monitoring deterioration of foodstuffs and medicinal substances.

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4. An arrangement (1, 3, 5) according to one of the preceding claims, **characterized in that** the sensor element (1) is adapted to couple capacitively to the LC circuit (3, 5).

5. An arrangement (1, 3, 5) according to claim 4, **characterized in that** the capacitively couplable sensor element (1) is disposed on top of the coil (5).

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6. An arrangement (1, 3, 5) according to claim 4, **characterized in that** the capacitively couplable sensor element (1) is disposed alone inside the package.

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7. An arrangement (1, 3, 5) according to one of the preceding claims, **characterized in that** the sensor element (1) is adapted to couple inductively to the LC resonator (3, 5).

8. An arrangement (1, 3, 5) according to claim 7, **characterized in that** the inductively couplable sensor element (1) is disposed in the middle of the coil (5).

9. An arrangement (1, 3, 5) according to claim 5, **characterized** in that the inductively couplable sensor element (1) is disposed alone inside the package.

5 10. An arrangement (1, 3, 5) according to claim 9, **characterized** in that the inductively couplable sensor element (1) is disposed inside the ring (2) that is thicker than the measuring element (1) and electrically conductive.

10 11. An arrangement (1, 3, 5) according to claim 10, **characterized** in that the ring (2) is circular, oval or polygonal in shape.

12. A method for a sensor arrangement (1, 3, 5) remotely readable by radio frequencies, wherein the arrangement comprises

15 - an LC resonator (3, 5), which comprises a capacitor (3) and a coil (5), and
- a sensor element (1) coupled to the LC resonator (3, 5), whose properties change as a function of a measurable quantity,

20 25 **characterized** in that
- the sensor element (1) is disposed in the sensor arrangement such that it does not form a direct galvanic contact with the LC resonator (3, 5), rather the coupling is implemented capacitively or inductively.

13. A method according to claim 12, **characterized** in that the sensor element (1) is cumulatively variable.

30 14. A method according to claim 12 or 13, **characterized** in that it is used in monitoring of deterioration of foodstuffs or medicinal substances.

15. A method according to claim 14, **characterized** in that the variable sensor element (1) is adapted to couple capacitively to the LC resonator (3, 5).

35 16. A method according to claim 15, **characterized** in that the capacitively couplable sensor element (1) is disposed on top of the coil (5).

17. A method according to claim 15, **characterized** in that the capacitively couplable sensor element (1) is disposed alone inside the package.
- 5 18. A method according to claim 12, **characterized** in that the cumulatively variable sensor element (1) is adapted to couple inductively to the LC resonator (3, 5).
19. A method according to claim 12, **characterized** in that the inductively couplable sensor element (1) is disposed in the middle of the coil (5).
- 10 20. A method according to claim 18, **characterized** in that the inductively couplable sensor element (1) is disposed alone inside the package.
- 15 21. A method according to claim 20, **characterized** in that the inductively couplable sensor element (1) is disposed inside the ring (2) that is thicker than the measuring element (1) and electrically conductive.
22. A method according to claim 21, **characterized** in that the ring (2) is circular, oval or polygonal in shape.